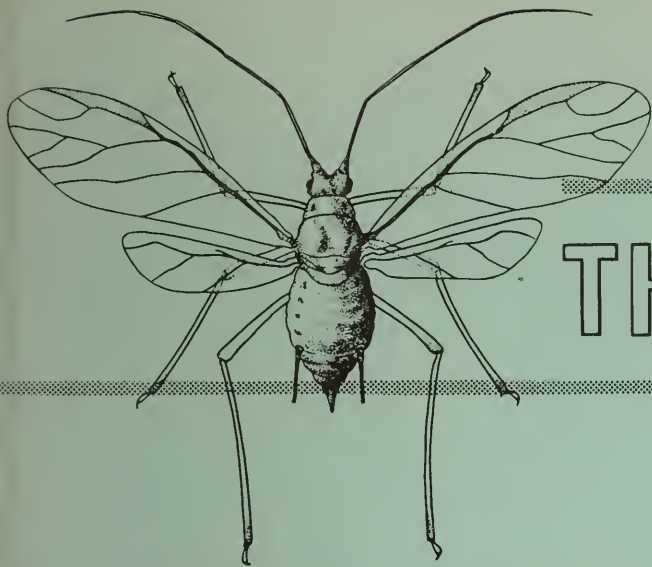


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THE **PEA** APHID

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The pea aphid¹ damages canning, field, and garden peas, including sweet peas. It also feeds on alfalfa, common clovers, vetch, sweet clover, and weeds of the legume family. It injures peas severely during the blossoming and early podding periods. Severely infested plants yield poorly, and the peas are of poor quality. The losses vary with the season and the area. Control measures are usually necessary when there are 5 to 10 aphids per plant during growth from the tenth internode to the first blossom.

DISTRIBUTION

The insect is found from coast to coast wherever peas and forage legumes are grown. It is most abundant on alfalfa, clover, and vetch.

DESCRIPTION AND LIFE HISTORY

The pea aphid is a light-green, soft-bodied, sucking insect. The nymphs resemble the adults except in size, and both feed on the sap of leaves and the stems of host plants.

The aphid overwinters as an egg on the crowns of alfalfa, clover, and similar plants. In the spring, when plants resume growth, the eggs hatch into small, wingless females. These feed on the new growth and give birth to several winged and wingless females each.

From late May to late June, the winged females of the next two or three generations migrate to peas and give birth to wingless females. These give rise to a few more generations of both winged and wingless females, the rate of development depending on weather and plant growth. Cutting alfalfa

¹*Acyrtosiphon pisum* (Harr.)

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or clover for hay reduces the number of wingless aphids remaining on these crops, but it is usually done too late to prevent migration to peas.

Before the peas stop growing, a few generations of winged females develop and migrate back to alfalfa, clovers, and other primary host plants. The aphids reproduce on these plants until October. The last generation is composed of both males and females; they mate and the females lay the overwintering eggs.

DAMAGE

The aphids infest mainly the terminal growth of the plant. By feeding on the buds, the opening blossoms, and the forming pods they stunt the plant and reduce yield and quality. Of the three races of the pea aphid, the two most harmful come mostly from alfalfa. Canning and field peas grown next to alfalfa fields are therefore likely to be damaged more than those grown near clover fields.

NATURAL CONTROL

Many parasites and predators attack the pea aphid. Among the parasites are minute wasplike insects, the larvae of which live in the aphids and kill them. The predators are mainly syrphid fly larvae, ladybird beetles, and aphid-lions. These devour many aphids, especially when the weather is warm. A fungus disease sometimes eliminates infestations in warm, moist weather. However, these agents of control do not always prevent serious damage to the pea crop.

CHEMICAL CONTROL

Sprays of malathion, parathion, and TEPP are the most practical means of control. Dusting with rotenone or malathion is also satisfactory. One application usually protects the crop if it is made as soon as there are 5 to 10 aphids per plant, or 50 to 100 aphids per sweep of a 12-inch net.

Most pea growers use a low-pressure sprayer drawn by, or mounted on, a farm tractor. This is the type of sprayer that is used to apply weedkillers, but it is equipped with a special set of nozzles to deliver 30 gallons of liquid per acre. Dusting is decreasing in favor among pea growers because the appropriate machinery is not as readily available and convertible to other uses as are low-pressure sprayers. For large areas, spraying from aircraft is preferred when conditions permit.

Ground Sprays and Dusts

For a ground spray, apply one of the following emulsible concentrates:

<i>Insecticide</i>	<i>Quantity per acre</i>	<i>Minimum number of days before harvest</i>
Diazinon, 25 percent	1 pint	7
Dimethoate, 4 pounds per gallon	5 to 6 fluid ounces	3
Malathion, 57 percent	1 quart	3
Parathion, 25 percent	1 pint	10
Phosdrin, 100 percent	4 ounces	1
Phosphamidon, 4.8 pounds per gallon	1 pint	16

If a dust is preferred, apply either 1 percent rotenone at 40 pounds per acre at least 1 day before harvest, or 4 percent malathion at 30 pounds per acre at least 3 days before harvest.

For small gardens, apply the 50 percent concentrate of malathion at 1 teaspoonful per gallon of water, or the 4 percent dust lightly and evenly.

Spraying by Aircraft

Several firms spray crops from specially equipped aircraft. They spray only when they consider that flying conditions are satisfactory. The insecticides and the quantities of active ingredients per acre are the same as those for ground sprays, but quantities of water vary with the type of equipment used in the aircraft.

Cautions

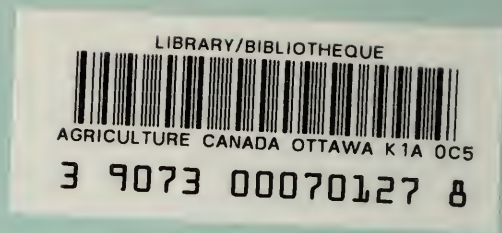
Follow closely all the cautions listed on the insecticide label, especially those concerning use of the vines for forage. An interval is required between the last application and harvest for some of the treatments. The interval varies with the material used, the number of applications and the amount applied. Keep to the interval given to avoid residues that would render the peas unfit for sale to the consumers.

RESISTANT VARIETIES

A few varieties of peas, especially Pride and Onward, are not heavily damaged by the pea aphid.

INQUIRIES

For more information, consult your agricultural representative, or provincial specialist, or write to one of the following offices of the Canada Department of Agriculture: Scientific Information Section, Central Experimental Farm, Ottawa, Ont.; Research Laboratory, St. Jean, Que.; Entomology Laboratory, Kamloops, B.C.; Research Station, 6660 N.W. Marine Drive, Vancouver 8, B.C.; or Entomology Laboratory, Chatham, Ont.



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